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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,511	12/19/2001	Andrey Zagrebelny	5298-07600 PM01036	6370

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EXAMINER	
ROSE, ROBERT A	

ART UNIT	PAPER NUMBER
3723	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/025,511	ZAGREBELNY, ANDREY	
	Examiner	Art Unit	
	Robert Rose	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 13-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *19 and 20* is/are allowed.

6)☒ Claim(s) *1-7,13-18 and 21-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Receipt is acknowledged of Applicant's Amendment, filed March 10, 2004.

2. Claims 8-12 remain canceled.

3. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 23 applicants recite "the water has a pH of about 7". It is unclear what water Applicants refer to, as claim 1 recites that no water is added.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7, and 21-23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yi et al. Note that Yi et al ensure that the pH of the slurry in the holding tank is not altered by any addition of water, by monitoring the pH of the slurry and adjusting the pH of the water if necessary such that it closely matches the slurry pH. This is performed prior to depositing the slurry onto the pad, and avoids the recognized problem of pH shock, which is known to lead to agglomeration of the slurry and consequent scratching of the wafer surface during polishing.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al in view of Sotozaki et al. Both Yi et al and Sotozaki et al recognize the need to avoid shocking the polishing solution, so that slurry agglomeration can be prevented. Sotozaki et al suggest at column 8, lines 51-67 to supply a small amount of water and gradually increase the amount to avoid pH shock. To deliver water to the slurry in gradual amounts in the method of Yi et al to avoid pH shock would have been obvious in view of Sotozaki et al. The timing and duration of the application of water are considered obvious matters of design choice, as long as the change is sufficiently gradual as to avoid agglomeration due to rapid pH change.

8. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al in view of Tolles et al. Tolles et al disclose a wafer polishing method in which the wafer is transferred to a secondary polishing station after primary polishing, followed by rinsing. To perform the polishing in the method of Yi et al in two steps, followed by a rinsing step to more gradually approach the endpoint, and remove stray particles following the final polishing, would have been obvious in view of Tolles.et al.

9. Claims 19-20 are allowed.

10. Applicant's arguments filed March 10, 2004 have been fully considered but they are not persuasive. Applicant's have amended claim 1 to recite that no water is added to the polishing solution on the pad during polishing. Applicants argue that Yi et al disclose adding water to the polishing solution during polishing. While it is recognized that Yi et al does mention adding water to the slurry before polishing, and utilizing water during a rinse step or flushing step, the examiner can find no specific reference in Yi et al to adding water to the polishing solution

during polishing. Both Yi et al and Sotozaki et al recognize the need to avoid shocking the polishing solution, so that slurry agglomeration can be prevented. With regard to claim 13, Sotozaki et al suggest at column 8, lines 51-67 to supply a small amount of water and gradually increase the amount to avoid pH shock. To deliver water to the slurry in gradual amounts in the method of Yi et al to avoid pH shock would have been obvious in view of Sotozaki et al. The timing and duration of the application of water are considered obvious matters of design choice, as long as the change is sufficiently gradual as to avoid agglomeration due to rapid pH change. Thus, the dispensing of water in discrete intervals, rather than continuously, would have been at most an obvious matter of design choice.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication should be directed to Robert Rose at telephone number (703) 308-1360.

rr

May 26, 2004.